

OFFICE OF MANNED SPACE FLIGHT  
PROGRAM DIRECTIVE

M-D

MA

1400.067

(Project)

DATE

August 14, 1967

APOLLO PROGRAM DIRECTIVE NO. 30A  
MA-009-030-1A

*Thorp please  
digest  
thoroughly*

TO : DISTRIBUTION

FROM:

*[Signature]*  
APOLLO PROGRAM DIRECTOR

SUBJECT: Apollo Technical Integration and Evaluation (TIE) Communications  
and Working Relationships

I. PURPOSE

This revision supersedes Apollo Program Directive No. 30, dated July 10, 1967. Its purpose is to delineate the systems management approach governing the means by which effective communications and working relations are to be implemented between the Apollo program and The Boeing Company for the accomplishment of the Technical Integration and Evaluation tasks as depicted in Contract NASW-1650 dated June 15, 1967. The proper implementation of the requirements of this directive will assure that all management plans and actions currently being developed throughout the program and applicable to this effort are properly integrated and directed toward common program goals.

II. SCOPE

The provisions of this directive apply to all Apollo program organizations, and its scope includes all control channels for data requirements, technical information flow, and working relationships to successfully accomplish the technical integration and evaluation assignments between:

- a. Apollo program organizations
- b. Apollo program organizations and the Apollo TIE Contractor (The Boeing Company)
- c. Apollo TIE Contractor and other Apollo Contractors, including OMSF Contractors (Bellcomm, General Electric, others).

III. RESPONSIBILITIES

All elements of the NASA Apollo organizations assigned responsibilities for the Apollo program shall adhere to the requirements set forth herein.

OFFICE OF MANNED SPACE FLIGHT  
PROGRAM DIRECTIVE

M-D

MA

1400.067

(Project)

DATE

August 14, 1967

APOLLO PROGRAM DIRECTIVE NO. 30A  
MA-009-030-1A

*Thorp please  
digest  
thoroughly*

TO : DISTRIBUTION

FROM:

*[Signature]*  
APOLLO PROGRAM DIRECTOR

SUBJECT: Apollo Technical Integration and Evaluation (TIE) Communications  
and Working Relationships

I. PURPOSE

This revision supersedes Apollo Program Directive No. 30, dated July 10, 1967. Its purpose is to delineate the systems management approach governing the means by which effective communications and working relations are to be implemented between the Apollo program and The Boeing Company for the accomplishment of the Technical Integration and Evaluation tasks as depicted in Contract NASW-1650 dated June 15, 1967. The proper implementation of the requirements of this directive will assure that all management plans and actions currently being developed throughout the program and applicable to this effort are properly integrated and directed toward common program goals.

II. SCOPE

The provisions of this directive apply to all Apollo program organizations, and its scope includes all control channels for data requirements, technical information flow, and working relationships to successfully accomplish the technical integration and evaluation assignments between:

- a. Apollo program organizations
- b. Apollo program organizations and the Apollo TIE Contractor (The Boeing Company)
- c. Apollo TIE Contractor and other Apollo Contractors, including OMSF Contractors (Bellcomm, General Electric, others).

III. RESPONSIBILITIES

All elements of the NASA Apollo organizations assigned responsibilities for the Apollo program shall adhere to the requirements set forth herein.

IV. IMPLEMENTATION

- A. Attachment I contains four Communications Networks (IA through ID) which graphically portray the program requirements for conducting business relations between the various Apollo program management segments, between NASA Apollo and The Boeing Company, and between NASA Apollo, The Boeing Company, and other Contractors.  
\* Each responsible program organizational element is to use these networks and supplement them where necessary through implementing directives and procedures. A copy of these implementing directives and procedures is to be forwarded to the Apollo Program Director.
- B. Attachment II contains a sample working agreement which is recommended for use in the development of a three-party working agreement at each location.

V. GENERAL POLICY

Each Apollo Program Office shall:

- A. Establish an Apollo TIE manager at an appropriate level within the organization as the Center's Apollo Program Manager's representative, who will directly interface with the Center's Apollo TIE Contractor and the Apollo Engineering Support Manager. *Program office*
- B. Establish definite points of communication and commitment on each Task (Task Directors), with defined authority to make decisions and act on behalf of the Program Manager. Establish and maintain a current listing, by name and organization identification, of each NASA point of commitment and Contractor Task Manager. *Attaching*
- C. Establish a person with the authority of the Program Manager to expedite the flow of data and information being requested or exchanged.
- D. Develop and implement, through contractual action, three-party working agreements with Apollo contractors as required to:

Exchange technical and Program Management information  
as noted above

Identify and understand data to be used

Expedite the acquisition of source or work-around data

Conduct Technical Interchange meetings

These working agreements shall establish lines of communication which are as direct as possible with the contractor's activity involved without infringing upon the contractor's proprietary information or Company's mode of operation. It is an objective to establish a single integrated working agreement with each pertinent Apollo contractor having multiple contractual instruments with one Center or contractual instruments with more than one Center. The Apollo Engineering Support Manager is responsible for coordinating with affected Center Apollo TIE Managers to develop and implement these working agreements. Attachment II will be used as a guide in the development of these working agreements.

- E. Identify and make available to the Apollo TIE Contractor, on a timely basis, official data sources for all information necessary to perform the Apollo TIE role. This shall include, but not be limited to, all schedule data, all change data, all interface data, all safety data, all problem identification data, all performance data, all technical data, all logistics data, and all other Apollo data of a non-financial nature.
- F. Every 30 days or more frequently, review the "Deliveries and Source Data" list containing the technical and management documents required as inputs for each data line item specified on the Contract Data Requirements List (CDRL) and assure that delivery schedules are met. The input documents shall be mutually agreed upon by the Apollo Task Director and his designated Boeing counterpart.

ATTACHMENT I

APOLLO PROGRAM -  
TECHNICAL INTEGRATION AND EVALUATION  
COMMUNICATIONS NETWORKS

DATE August 14, 1967

APOLLO PROGRAM -  
TECHNICAL INTEGRATION AND EVALUATION  
COMMUNICATION NETWORKS

1.0 INTRODUCTION

These Networks (Attachments IA through ID) depict graphically the requirements of this directive which are necessary for the timely and expeditious introduction of The Boeing Company into the Apollo program for the conduct of their contractual commitment.

2.0 TECHNICAL DIRECTION - CHART IA

This chart is not to be construed as an organizational chart. Its only purpose is to identify the channel in which technical direction is to flow for the Technical Integration and Evaluation (TIE) activities. The Apollo Program Director is responsible for the overall direction of the TIE effort. This chart portrays that direction flows from the Director to his APO staff and from the Director to the three Center Apollo Program Managers and hence to their respective staffs for execution.

3.0 TASK INTEGRATION - CHART IB

In order to provide single thread management, both horizontally and vertically, the system for managing TIE is to be standard throughout the program. Therefore, the work statements being developed for the definitive Contract will be structured identically. Further, the 533 form is to be structured in a like manner in order for financial management data to be reported by tasks and in a standard format. Work packages will be developed for each task set forth in the Contract. The Apollo Engineering Support Manager is responsible for the development of integrated management systems, policies and procedures. The Centers' Apollo TIE Managers have direct interface with the Apollo Engineering Support Manager and shall represent the Program Managers in the development of integrated management systems, policies and procedures. Boeing TIE management will work closely with Center Apollo TIE Managers. Boeing TIE Task Managers will work directly with their Apollo Task Directors in the performance of their technical integration and evaluation tasks. The Boeing Company is responsible for developing compatible management systems, policies and procedures.

4.0 INFORMATION FLOW AND TASK WORKING RELATIONSHIPS - IC

As stated previously, the work statements and attendant financial management requirements at all locations will be structured in an identical manner. [Therefore, to adequately integrate the TIE tasks throughout the program, an uninhibited information flow and working relationship is to be established between Apollo Task Directors at all locations and between

#### 4.0 INFORMATION FLOW AND TASK WORKING RELATIONSHIPS - IC (Continued)

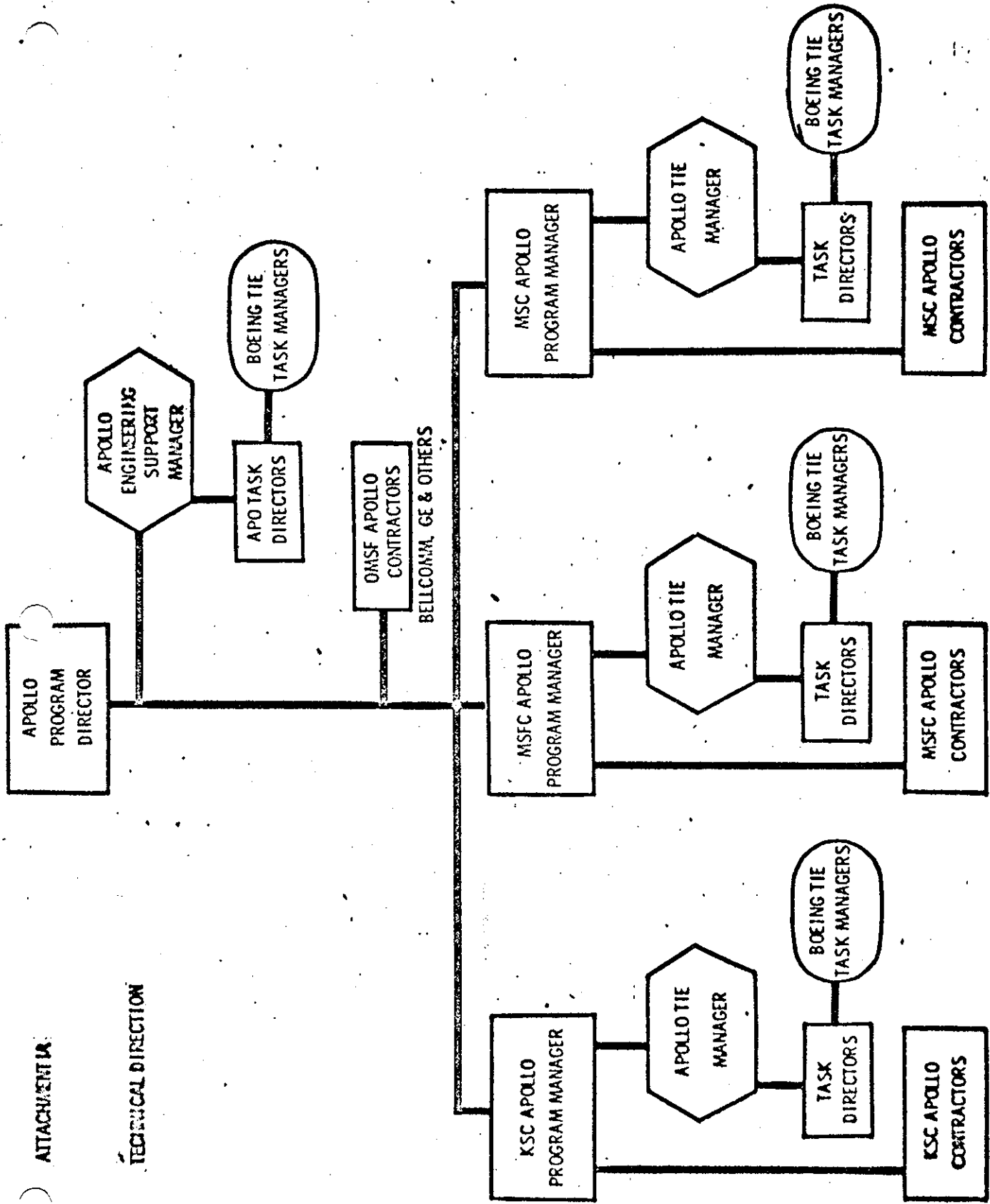
Boeing TIE Task Managers at all locations.] The Apollo Task Directors are responsible for the day-to-day management of their assigned tasks. However, in executing this responsibility the Task Directors should plan their objectives and requirements far enough in advance in order to formally communicate them to their Boeing TIE counterparts. The Boeing TIE Task Managers at each location are to participate on a mutual basis in planning for the accomplishment of the task, and to recommend improvement potentials in the performance of The Boeing Company's responsibilities. The Boeing TIE Task Managers at each location will \* have a free flow of communications with their counterpart Boeing TIE Task Managers at all other locations. This is required in order for the Center Boeing TIE Task Managers to be kept abreast of improvement potentials and recommendations developed at the other locations which might be of benefit and can be considered when recommending courses of action applicable to their particular task.

#### 5.0 CENTER - CONTRACT WORK RELATIONSHIPS - CHART ID

Each Center is to develop three party working agreements in order to exchange technical and program management information, and to conduct technical interchange meetings. The policy for this management action is set forth in paragraph V E of this Directive. Further, a sample format is provided for use as Attachment II in order to assist in the preparation of these agreements.

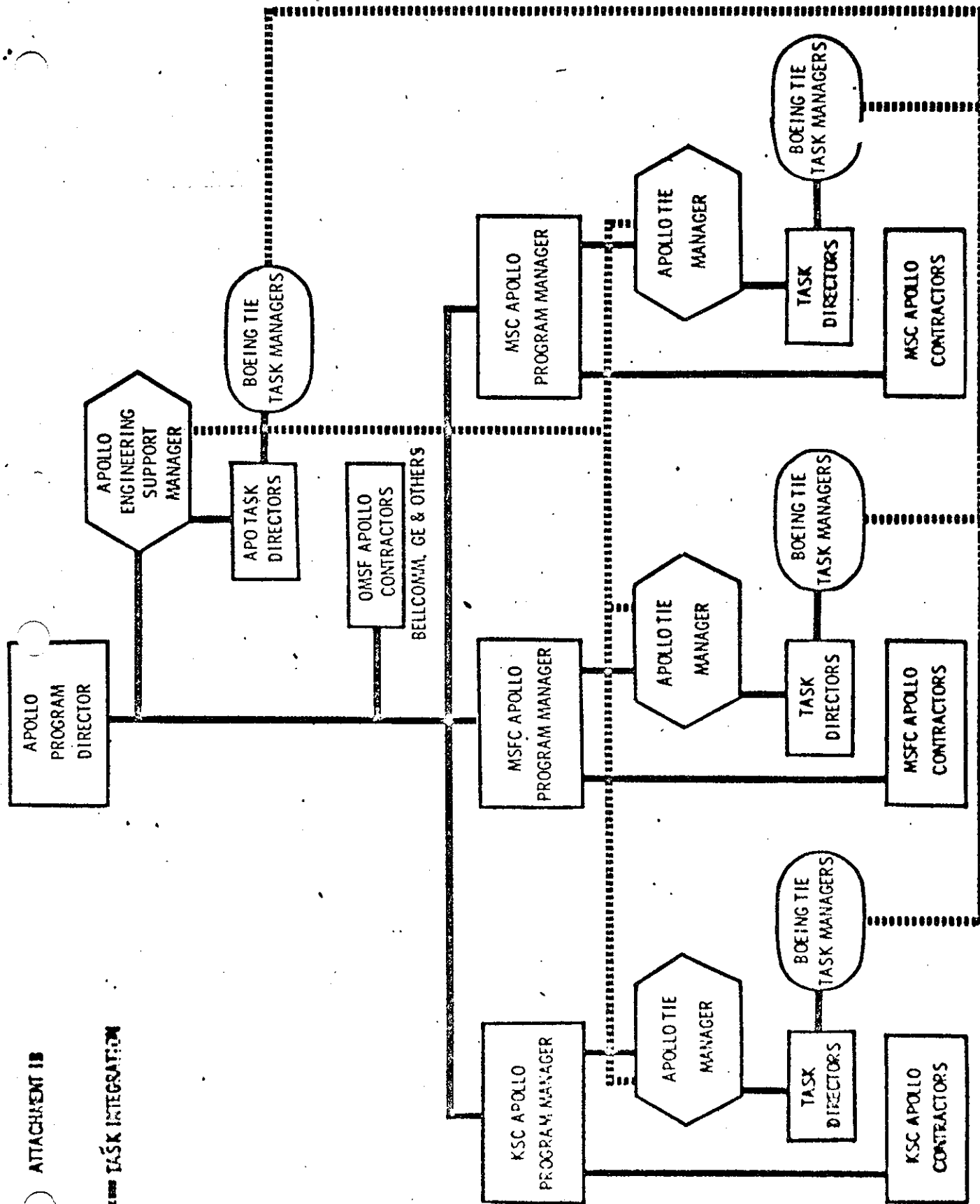
ATTACHMENT A

TECHNICAL DIRECTION



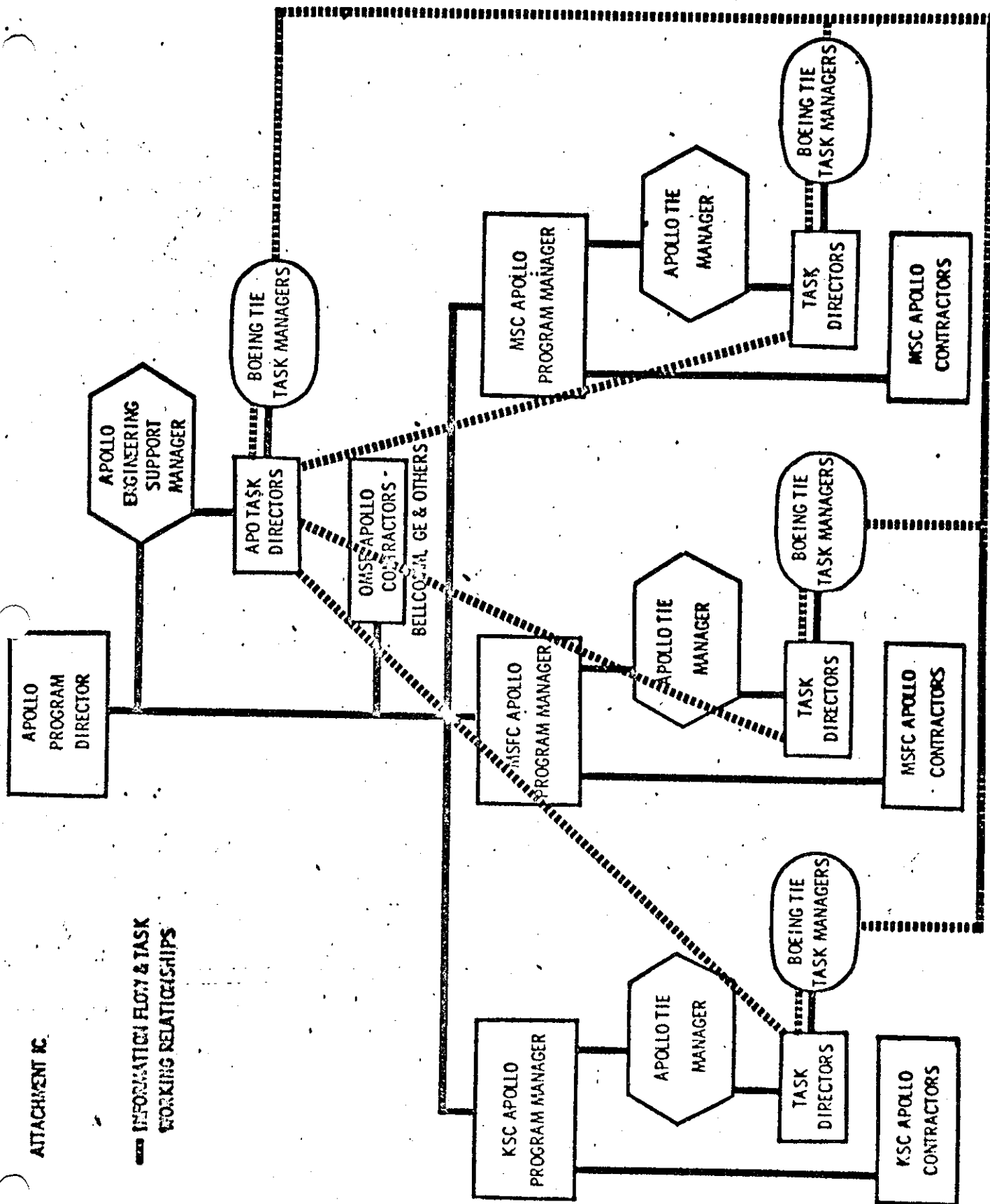


# NUOVE TRASMISSIONI



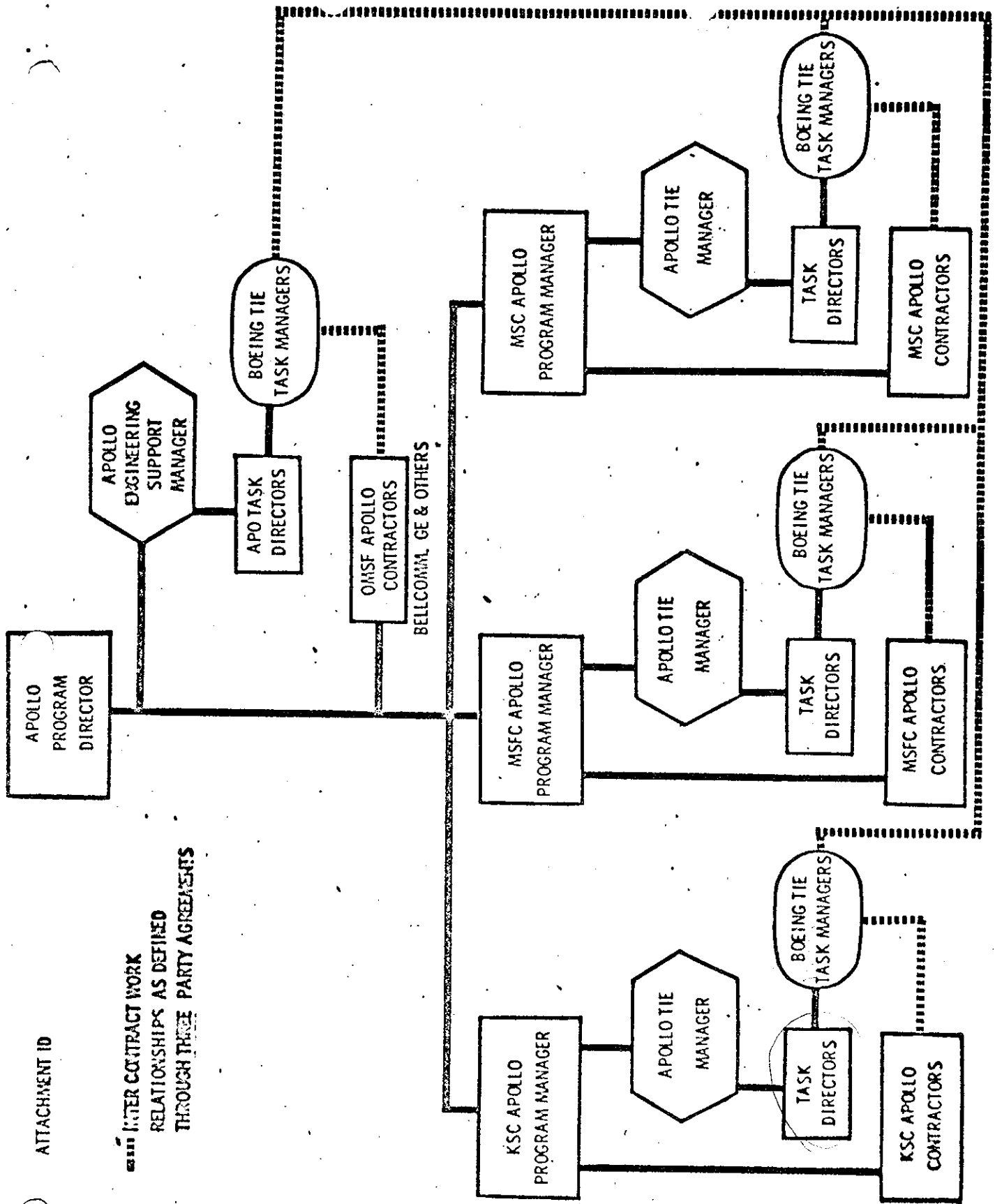
# ATTACHMENT IC

## INFORMATION FLOW & TASK WORKING RELATIONSHIPS



ATTACHMENT ID

INTER CONTRACT WORK  
RELATIONSHIPS AS DEFINED  
THROUGH THREE PARTY AGREEMENTS



ATTACHMENT II

NOTE: This is a sample only of a top-level working agreement. Actual organization names or abbreviations would be inserted where generic names are shown in parentheses. Specific agreements at the Center level would be based on the general provisions and scope of such a top-level agreement.

APOLLO PROGRAM  
WORKING AGREEMENT

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
THE BOEING COMPANY  
(APOLLO PROGRAM CONTRACTOR)

DATE August 14, 1967

APOLLO PROGRAM - WORKING AGREEMENT  
NASA/THE BOEING COMPANY/(APOLLO PROGRAM CONTRACTOR)

1.0 INTRODUCTION

Timely exchange of technical and program management data and information between responsible parties is essential to provide the Apollo Program Director with analyses and visibility required for effective program management and for successful accomplishment of mission and program objectives. This working agreement defines the NASA/Boeing/(Contractor) relationships and procedures which are necessary to accomplish the data acquisition and information liaison required in support of the Apollo Technical Integration and Evaluation (TIE) mission, Contract NASW-1650.

2.0 SCOPE

This agreement applies to technical and program management data and information which are understood to be contractually deliverable or otherwise available to the Government within the intent and scope of all contracts between elements of NASA and (Contractor) which relate to the Apollo Program. Detailed working agreements may be established between subordinate organizations of (Contractor), The Boeing Company, and the cognizant NASA Manned Space Flight (MSF) Centers to document particular procedures, data items, flow times, and focal points applicable to a specific contract or to the cognizant Center's operation.

Training and technical interchange necessary to identify, explain, and supplement data and information within the scope of this agreement will be provided by (Contractor) to NASA and The Boeing Company as necessary to support Apollo TIE tasks.

In event of a conflict between this agreement and a specific contract between NASA and (Contractor), the contract shall govern. Designated focal points at the cognizant Center and The Boeing Company shall be notified when information or data requested are considered to be outside the scope of a (Contractor) contract, and the Center will take the necessary action to resolve the problem. Should information or data requested be considered to be of a proprietary or limited nature by (Contractor), the request shall be referred to the cognizant Center for resolution.

3.0 RESPONSIBILITIES

3.1 Points of Contact

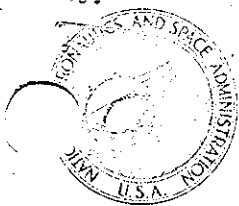
The Boeing Company and (Contractor) will designate single points of contact for the requesting of data and the arrangement of interchange meetings and communications contacts relative to the acquisition of technical and program management data and information. Designated individuals for each working agreement, their organization titles, and their addresses will be furnished in writing to the cognizant NASA Apollo TIE Manager.

### 3.0 RESPONSIBILITIES (Continued)

#### 3.2 Data Requests

All requests for data will be conducted between the above designated offices. Data may be requested by telephone, TWX, or letter. Telephone conversations involving requests for data, commitments, or decisions with respect to data transmittal will be immediately verified in writing. TWX requests for data will be acknowledged within the number of working days specified in the detailed working agreement. Acknowledgement will specify the anticipated date when data will be transmitted or made available. Data supplied by (Contractor) will be in a reproducible form. New data or new arrangements of existing data will be ordered by means of Data Requirement Description (DRD) and Contractor Data Requirements List (CDRL) in accordance with NPC 500-6.

- a. When requesting meetings, The Boeing Company will provide a list of proposed agenda items, meeting location(s) and date(s), visiting personnel and desired contacts, and will designate a Team Leader, when required. This request will be submitted to (Contractor) and the cognizant Center in sufficient time prior to a proposed meeting date(s) to allow adequate preparation for the meeting(s).
- b. (Contractor) and The Boeing Company will agree on a meeting agenda, location, and dates prior to the meeting. These final arrangements will be coordinated with appropriate personnel at the cognizant Center.
- c. The Boeing Company Team Leader will prepare summary-type minutes of the meeting. These minutes will consist of items discussed, decisions made, action items, and a record of data being transmitted. The minutes will be signed by The Boeing Company Team Leader and the (Contractor) Meeting Chairman, and distribution will be made to all parties involved on an expedited basis, preferably at the end of the meeting.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
WASHINGTON, D.C. 20546

IN REPLY REFER TO:

APR 11 1968

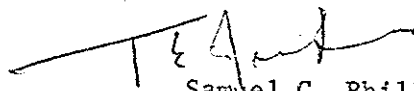
Rear Admiral R. O. Middleton  
Apollo Program Manager  
John F. Kennedy Space Center  
Kennedy Space Center, Florida 32899

Dear Rod:

A draft copy of an Apollo Program Directive which defines the procedure for assignment of systems level work under contracts NASw-1650 and NAS8-5608 is enclosed for your review. Informal comments from your staff have already been incorporated where appropriate.

I'd appreciate receiving your comments by April 19, 1968, to permit early release of the directive.

Sincerely,



for Samuel C. Phillips  
Major General, USAF  
Apollo Program Director

Enclosure

APOLLO PROGRAM DIRECTIVE NO. \_\_\_\_\_

TO : Distribution

FROM:

DRAFT

APOLLO PROGRAM DIRECTOR

SUBJECT : Systems Level Technical Integration and Evaluation (TIE) Work Assignments.

OFFICE OF PRIME RESPONSIBILITY: Apollo Program Director (MA)

REFERENCE: Apollo Program Directive No. 30A

I. PURPOSE

The purpose of this directive is to define the procedure for assignment of systems level work under Contracts NASw-1650 and NAS8-5608. Systems level technical integration and evaluations are those which are not solely within the organizational responsibility of a single MSF Center.

II. SCOPE/APPLICABILITY

This directive applies to all Manned Space Flight organizations participating in the Apollo Program and encompasses the requirements for initiating, defining, and implementing systems level work as defined above. Included are requirements for classification of data and approval of completed work.

III. WORK ASSIGNMENT PROCEDURE

Recommendations for systems level work, including justification, will be submitted in writing to the Apollo Program Director. MSF Center submissions will be signed by the appropriate Program Manager or his designee. An information copy, addressed to the Apollo Program Office TIE Technical Director will be included with the original submission.

Each recommendation will be evaluated to determine the required MSF Center/s participation. Written direction for proceeding with the work will be prepared for approval and issuance by the Apollo Program Director to the appropriate MSF Center Apollo Program Manager/s. This direction will include the required date for submittal of information and the specific data requirements and desired format.

In response to the Apollo Program Director's written direction, each MSF Center will determine if the required effort can best be accomplished by NASA personnel, Boeing TIE, or other contractors actively engaged in related effort. If Boeing TIE is required to support the effort, the contractor will be notified in accordance with local procedures.



IV. SUBMISSION OF MSF CENTER TIE INPUTS

Completed work will be approved by the appropriate Center Program Manager. This work will be submitted concurrently to the Apollo Program Office and the APO Boeing TIE organization for inclusion in the overall systems level study. When time does not permit NASA review and evaluation of this work, the data will be submitted with the identification. "Non-validated Data."

Completed work accomplished by local Boeing TIE organizations but not approved by the Center Program Manager will be submitted to the Apollo Program Office with reasons for disapproval.

TIE-WDC, upon completion of the systems level analysis, will submit the results with recommendations to the appropriate Apollo Program Office Directorate and each participating Center. The Apollo Program Office Directorate will, after coordination with the respective Center personnel, submit its recommended actions to the Apollo Program Director for review and approval.

*Director*

DATAFAX TRANSMISSION

TELEPHONE NO. <b>7116</b>	MESSAGE NO.	DATE <b>2-16-68</b>
George C. Marshall Space Flight Center Marshall Space Flight Center, Alabama Attention: LHM/Mr. H. W. Strickland		
To: Manned Spacecraft Center Houston, Texas Attention: PP7/Mr. William Kelly	John F. Kennedy Space Center Kennedy Space Center, Florida Attention: DA/Mr. E. R. Mathews	
FROM: MA-2/Major W. E. Beebe NASA Headquarters Washington, D. C.		

*called #*

REMARKS

This is a draft of an Apollo Program Directive which will be the policy and overall procedure for work assignments of a system level technical integration and evaluation nature, as defined in paragraph one of the draft.

It is requested that you review this draft and datafax any comments applicable to us by c.o.b., February 19th. The reason for the early response is based on General Phillip's desire to issue the directive before February 20th. Please address your response to Major Beebe.

*#3*

*2/19/68  
Lin*

DRAFT

Apollo Program Directive No. \_\_\_\_\_

Subject: Systems Level Technical Integration and  
Evaluations (TIE)-Work Assignment Policy

Office of Prime Responsibility: Apollo Program Director (NA)

Reference: Apollo Program Directive No. 30A

I. Purpose

The purpose of this directive is to define the policy for systems level work assignments under Contract NASw-1650. Systems level technical integration and evaluations are those which are not solely within the organizational responsibility of a single MSF Center.

II. Applicability

This directive applies to all Manned Space Flight and Boeing TIE organizations participating in the Apollo Program.

III. Scope

This directive encompasses the authority and responsibilities for initiating, defining, and implementing system level work as defined above. Included are the requirements for classification of data, approval of completed work, and for implementing recommended actions where appropriate.

IV. Authority/Responsibility/Assignments

1. All Manned Space Flight and Boeing TIE organizations participating in the Apollo Program are responsible for identifying and recommending system level work. Each recommendation will be submitted in written form to the Apollo Program Director with an information copy to the APO TIE Technical Director.
2. The Apollo Program Director will consider each recommendation and determine its disposition.
3. For those recommendations approved by the Apollo Program Director, the APO TIE Technical Director, assisted by TIE Washington, D. C., will analyze and determine the best solution approach and participation required for the evaluation. With the assistance of the appropriate APO Directorate, the necessary written direction for proceeding will be prepared for approval by the Apollo Program Director.
4. The Apollo Program Director will issue direction for work as applicable to the NASA organizations required to participate. System level work will take precedence over all other TIE work. The required due date will accompany all directions issued. In addition to the due date, a priority will accompany each direction issued. The priority assigned will be used to

resolve work load conflicts between system level work only. Each direction issued will include the specific results required. The results will be input to the APO level analysis.

In response,

5. Each NSF participating center will issue work requests to the local TIE organization as appropriate. The NSF Center will administer the activity thru completion. Upon completion it will classify the result. Completed work with its classification affixed will be transmitted to the Apollo Program Office and the APO Boeing TIE organization for assimilation into the overall system level analysis. Classification categories of TIE Center results will be as follows: a) validated - the validated category means the results have been reviewed and are approved; b) unagreed upon - the unagreed upon category means the results have been reviewed and are not approved; c) non-validated - the non-validated category means the results have not yet been reviewed.
6. TIE Washington, D. C. under the cognizance of the appropriate Apollo Program Office Directorate(s) will complete the system level analysis and submit the results with recommendations to the Apollo Program Director for review.
7. Based upon the foregoing review, the Apollo Program Director will issue, as appropriate, the necessary directions for implementing the recommendations.